

Monthly Activity Report

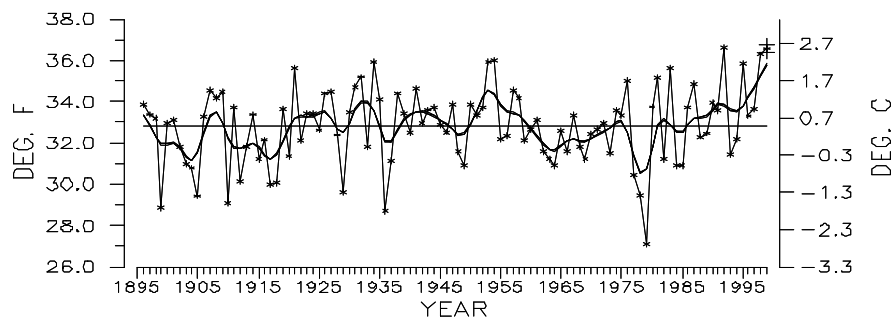
February 1999

National Climatic Data Center

A National Resource for Climate Information



U.S. NATIONAL TEMPERATURE
WINTER (DEC-FEB), 1895/96-1998/99



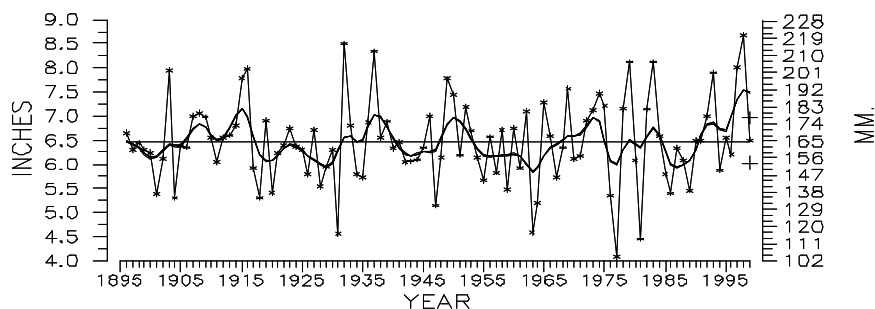
National Climatic Data Center, NOAA

STRAIGHT HORIZONTAL LINES ARE:
MAXIMUM VALUE (TOP),
LONG-TERM AVERAGE (MIDDLE),
MINIMUM VALUE (BOTTOM)

THICK SMOOTH CURVE
IS 9-POINT BINOMIAL
FILTER.

CONFIDENCE INTERVAL
FOR CURRENT YEAR IS
INDICATED BY '+'.
+.

U.S. NATIONAL PRECIPITATION
WINTER (DEC-FEB), 1895/96-1998/99



National Climatic Data Center, NOAA

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Preliminary data for February 1999 indicate that temperature averaged across the contiguous U.S. was much above the long-term mean, ranking as the sixth warmest February since 1895 (Top Figure). Nearly 48 percent of the country was much warmer than normal, while about one percent was much cooler than normal.

February 1999 was the 30th driest such month since 1895, and contrasts sharply with the wet conditions of February last year. Over 24 percent of the country experienced much drier than normal conditions, while about nine percent of the country was much wetter than normal.

DIRECTOR'S HIGHLIGHTS

NCDC Reorganization

The National Oceanic and Atmospheric Administration approved the National Climatic Data Center's proposed reorganization with an effective date of March 28, 1999. Realignment, reassignment, recruitment, and move actions are being completed.

Climate Annual Report

The National Climatic Data Center (NCDC) provided Secretary of Commerce William Daley a printed copy of the expanded "Climate of 1998 Annual Report." NCDC was asked to provide this material for the Secretary's review during a flight to Washington, D.C., after a recent trip abroad.

CLIMATE DATA AND INFORMATION SERVICES

♦ **Database Development**

Storm Events Database Updates

The Storm Events database has been updated to include storm reports from the Storm Data publication through the end of 1998. Future updates will include 1992 and 1993 Storm Data reports, and wind and hail data from 1950 to 1992. The Storm Events database has been made available for purchase in a variety of formats. It currently includes tornado data from 1950 through 1991 and complete storm reports, including all types of severe weather, and damage assessments and injuries, from 1994 through 1998. The database is now on-line and available to customers via the National Climatic Data Center's Web page.

Data Management

The National Climatic Data Center (NCDC) has the capability to operate without the UNISYS and all functions are Y2K compliant. Using manual

and automated procedures, a process has been developed to create archive tape cartridges without a job scheduler or tape management system.

♦ **Data and Information Distribution**

Growth in On-Line Customer Services

Customer service statistics reveal a dramatic growth in on-line services. On-line customer contacts during February totaled 25,194 contacts. Electronic mail receipts reached a record monthly high of 1,411 contacts, which represented a 36 percent increase over February 1998 totals. Demand for National Climatic Data Center (NCDC) data on the Internet showed spectacular growth over the past twelve months. A total of 23,783 customers accessed 14 gigabytes of climate data from the NOAA National Data Center On-Line Data Store during February, representing a dramatic 883 percent increase over the 2,400 contacts during February 1998.

“Climate Watch” Page Added to Web

The National Climatic Data Center (NCDC) has added a new monthly feature to its Web page entitled “Climate Watch.” The page provides a review of significant climate events and extremes during the month and provides links to reports of particular events and to other Web sites (e.g. Regional Climate Center reports). The page will also periodically contain historical climatological reports of unusual significance (i.e., the February page has a report dealing with the Great Cold Wave of February 1899). The “Climate Watch” feature begins with January 1999 and will be updated each month. Featured events for January include the Chicago blizzard and the three severe weather and tornado outbreaks in the southeast. Featured events for February include the Alaska deep freeze, the cold snap in Florida, and links to avalanche incident reports (over 50 people died this month due to Avalanches).

Climate Monitoring

The National Climatic Data Center’s Web-based Global Climate Monitoring Report for January 1999 was completed and made available on schedule on February 10th. The report places global land/ocean trends and anomalies in historical perspective, and includes global-regional analyses and excerpts from the Climate Variation Bulletin for U.S. national/regional/state analyses. The system now includes a monthly Climate Watch page which details current significant meteorological events on a continually updated basis during a month. This page will also periodically include reports of significant historical events. The February Climate Watch, issued the week of the February 16th, included a report on the Great Cold Wave and Blizzard in February 1899.

Climatic Data Access System Completed

The National Climatic Data Center (NCDC) has completed phase one of its Oracle access system for climatic data, which includes full period of

record daily (TD-3200, TD-3210) and monthly (TD-3220, TD-3500) data. The system, accessible through NCDC’s local Web page, is now going through a final in-house review before it will be placed on-line for external users via the On-line Store. The system allows for data selection by country, state, county, climate division, individual station, and time. Problems related to SP2 response times and performance are now being investigated by IBM. Hourly and 15-minute precipitation will be added to the system in March. Depending on funding, data sets to be added during phases two and three in 1999 are (with overall volume reaching about 700 gb): U.S. and global surface hourly, upper air Comprehensive Aerological Research Data Set (U/A data), marine, and solar radiation data. This system will allow on-line and off-line data requests (e.g., for diskette or tape) to use the same database and the same software, thereby producing consistent results and lowering long-term maintenance costs.

Country Data

The Department of Energy and the National Climatic Data Center (NCDC) are collaborating to provide historical climate data for use by the integrated assessment community through an interagency agreement between NCDC and the Carbon Dioxide Information Analysis Center at the Oak Ridge National Laboratory in Oak Ridge, TN. Time series of temperature for several countries were the first deliverable, completed, and posted to the Carbon Dioxide Information and Analysis Center Web site.

Data Rescue Update

The conversion of paper records containing surface weather observations to digital images continues. During February, 25,000 boxes of records were shipped to the West Virginia contractor. With this milestone, we have now surpassed 10 million pages to be imaged.

February was a transition month for the quality assurance process as the National Climatic Data

Center (NCDC) closed down the Orkand effort and began to implement a revised NCDC process. The West Virginia contractor, Information Manufacturing Corporation, is developing a remote production access system for NCDC's use in the quality assurance process. NCDC is investigating the use of natural handwriting recognition technology to provide us with an objective means of quality assurance.

The first meeting of the Data Rescue Climate Steering Group was held to set priorities for future Data Rescue work. The group will provide data rescue efforts with direction and priorities for work done under data rescue, both keying and imaging.

Steve Doty has been named the NCDC Data Rescue Coordinator. He will also continue to be the program manager for the imaging project being accomplished in West Virginia. Steve was recently interviewed by a reporter from the "Washington Technology" magazine. The reporter was interested in NCDC's efforts to image paper records and plans to manage the images.

NOAA-K/L/M Level 1b Data Format

The National Climatic Data Center (NCDC) continues to provide support for the development and maintenance of the Level 1b data formats for the NOAA-K/L/M series of Polar-orbiting Operational Environmental Satellites (POES). NCDC worked with the instrument scientists and software developers to document bias correction changes in the Advanced Microwave Sounding Unit (AMSU)-B data formats that will be implemented in early March. NCDC will participate in a meeting March 5th to discuss a third bias problem discovered in mid-February.

Possible Cost-Benefit Reassessment of WSR-88D Level II Recording and Archive

According to the Operational Support Facility for the Next Generation Weather Radar (NEXRAD) Program, the National Weather Service may

reevaluate the cost benefit of recording Level II data on 8mm tape. Many sites are experiencing difficulties with the 8mm tape recording equipment and are spending considerable time keeping the system operational. The implication is that the amount of data recorded may be reduced or a more cost-effective system designed.

NNDC Server Coordination

Representatives from all the National Oceanic and Atmospheric Administration (NOAA) Virtual Data System (NVDS) projects and the NOAA Server project met February 2-5 in Silver Spring, MD, with the following purpose: review current technical status of NVDS projects, assemble teams to finalize NVDS component part interfaces, determine steps necessary to be in an operational state by June 30, 1999, and enable project teams to work together to resolve interface issues and to highlight areas where special effort will be needed for operational readiness. During the meeting, another milestone was added to this schedule: March 31, 1999 is the deadline for presenting the "future operational system" to NOAA management.

♦ Research Customer Service Group Requests

Day Data Used for Chemistry Research

A researcher with Johns Hopkins University's School of Hygiene and Public Health obtained daily average temperature and dew point data for Dhaka, Bangladesh, via the National Climatic Data Center's (NCDC) Web site using the Global Summary of the Day Data. The researcher will use these parameters to calculate daily average humidity values for the time period of July 1, 1995 - July 31, 1996, using an NCDC-supplied formula to approximate the daily humidity given the air temperature and dew point. Monthly summaries for the year under study are being developed. The information will be used in a journal article about an analytical chemistry method developed in Dhaka during this period.

♦ Satellite Data Requests

Volcanic Ash Impact Study

The National Weather Service Alaska Region and Scripps Institute of Oceanography are involved in a joint effort to develop algorithms to detect airborne volcanic ash in a moist environment. Volcanic ash is a major and expensive hazard to the airline industry, putting both the lives of passengers and the operation of aircraft engines at high risk. Repair costs run high even when planes fly through relatively small amounts of ash, thus, the need to detect even the smallest traces of plumes in the atmosphere. To help in the algorithm development effort, the National Climatic Data Center (NCDC) has provided more than 700 satellite data sets from both the Geostationary and Polar-orbiting Operational Environmental Satellites over the last six months. Real-time monitoring of volcanic ash plumes using satellite data could greatly benefit the airline industry.

Satellite Data Used to Study Algae Bloom Event

The National Climatic Data Center (NCDC) is providing high resolution AVHRR data taken by NOAA-9 and NOAA-10 during a three-week period from January 21 through February 15, 1988, to the National Marine Fisheries Service Beaufort, NC, laboratory. The data will be used to examine the dynamics of the onset of harmful algal blooms along the North Carolina coast. The blooms under study are of *Gymnodinium breve*, a species of dinoflagellate which produces a toxin hazardous to humans and some marine mammals.

♦ Requests from News Media

Urban Temps

Tom Peterson of the National Climatic Data Center (NCDC) was interviewed by Robert Irion, contributing correspondent for *Science Now*, the

on-line news service published by *Science Magazine* (www.sciencenow.org). The interview concerned a geophysical research letters paper on global rural temperature trends written about research conducted at NCDC. The research determined that the global rural temperature time series and trends are very similar to those derived from the full (rural and urban) Global Historical Climatology Network data set. Therefore, the well-known global temperature time series from in situ stations is not significantly impacted by urban warming. The 45 minute interview covered both technical aspects of the research as well as its implications.

Climate Institute

Writer/journalist Neil Scott interviewed Robert Quayle of the National Climatic Data Center for an article. Mr. Scott is researching on the Climate Institute, a micro-intergovernmental panel that advises high government officials regarding climate change. The institute members believe that climate change, while not necessarily a disaster in the making, could quite possibly be so. Thus, they believe climate monitoring, prediction, and change abatement policies should be accorded ultra-serious consideration by political decision-making bodies.

Data Provided to *Charlotte Observer*

The gardening editor for the *Charlotte Observer* newspaper contacted the National Climatic Data Center (NCDC) to obtain monthly temperature data for the winters of 1997-1998, and thus far in the winter of 1998-1999. The editor has noted the advanced state of vegetation in her area and wishes to compare the current winter's temperatures with last year's, and to compare both with normal values. Data from monthly issues of the *Local Climatological Data* publication for Charlotte were faxed to help the editor answer her questions. Phenomenally warm temperatures have prevailed in both winters, with monthly mean temperatures in Charlotte averaging as much as 7 degrees above normal.

Frozen Florida in 1899

Selected pages from the "Climate and Crop Service" publication (forerunner to the National Climatic Data Center's popular *Climatological Data* publication) for February 1899 for Florida were faxed to a reporter for the Fort Myers *News Press*. The reporter was looking for information regarding the most severe cold spell ever recorded in the southeastern U.S. Temperatures in Fort Myers, FL, dropped to 28° F and in Tallahassee to 2° below zero, a state record.

Mile High City Getting Windier?

The front page of the Denver Local Climatological Data publication for the winter months of 1997-1998 and unedited versions for 1998-1999 were faxed to the National Oceanic and Atmospheric Administration's Office of Public Affairs. The office had received questions from the *Rocky Mountain News* regarding a comparison of last year's average wind speeds versus the average wind speeds for this year in the Denver area. As

the newspaper reporter had suspected, this year's average winds in the Denver area were higher than those reported last year.

♦ Regional and State Climate Centers

Regional and State Climate Center Activities

The National Climatic Data Center (NCDC) has agreed to a Regional Climate Centers (RCC) management plan for the years 1999-2003, and an implementation plan for customer service integration. The next RCC Directors' meeting will be held April 20-22, 1999, at NCDC in Asheville, NC. Mike Helfert, Director of the Southeastern Regional Climate Center (SERCC) visited NCDC during the month. Discussions centered around the provision of NOAAPORT data streams to the SERCC, a possible proposal to the National Aeronautics and Space Administration, and the Data Rescue Steering Group meeting.

SCIENTIFIC AND PROFESSIONAL ACTIVITIES

♦ Working Groups/Committees/ Meetings

FCC Working Group

The Federal Climate Complex (FCC) Working Group met on February 25th to begin regular meetings to discuss various FCC issues. The group includes representatives from the National Climatic Data Center (NCDC), the Navy, and the Air Force, and will meet biweekly for the next few months. Periodic meetings will then continue thereafter. Current issues include completion and implementation of an FCC Memorandum of

Understanding which will soon be ready for final signatures. Other issues include data exchange, joint projects, and a better sharing of ideas and resources.

NVDS Integration Meeting

Dee Dee Anders and Kathy Hawkins of the National Climatic Data Center attended the NOAA Virtual Data System (NVDS) Integration meeting in Silver Spring, MD, the first week of February. The meeting concentrated on issues pertaining to the integration of all NVDS systems including the NOAA National Data Center Server,

NOAA Server, Online Store, and the Customer Order Management Processing System. There was also discussion concerning how new projects such as inventory and metadata will affect integration activities with all other NVDS projects. Short-term goals include putting two data sets from each Data Center on-line and accessible through the NNDC Server by March 31. June 30, 1999, is the deadline for developing the prototype fully functional system including all data sets to be accessed by the NNDC Server and ordered through the On-line Store. This system will be accessible to the public by the end of FY 99.

METOP Product Processing Team

The National Climatic Data Center (NCDC) participated at the kickoff meeting of the Meteorological Operational Satellite Product Processing Team on February 3rd. Product developers were given basic information on the MetOp-1 mission, and asked to consider products for it. The mission includes Global 1km resolution Advanced Very High Resolution Radiometer (AVHRR) coverage, a 9:30 A.M. orbit, and a switched “five of six” channel AVHRR instrument.

Climate Change Symposium

Michael Crowe of the National Climatic Data Center was an invited speaker at a one-day symposium entitled: “Climate Change: The Phenomenon, Its Impacts and Politics,” held at the Polytechnic University of Catalonia, in Barcelona, Spain. Mr. Crowe delivered a half-hour lecture concerning the scientific study of climate change, touching on theory, modeling, observations, detection and attribution to anthropogenic forces and described work performed at the National Climatic Data Center in putting the current

climate into historical perspective. He stressed the importance of free and open exchange of meteorological and climatological data. Mr. Crowe also participated in a round-table discussion and a luncheon/interview attended by representatives of the major Spanish political parties, and gave additional interviews to the press and local television.

Snow Cover Workshop

During the week of February 8, 1999, Alan Basist of the National Climatic Data Center led a workshop at the World Weather Building in Camp Springs, MD, on “Using Multi-Sources in the New Daily Snow Cover Product” developed by the National Environmental Satellite, Data, and Information Service. He also visited Alfred Chang and Andrew Tait of NASA Goddard to collaborate on a technique to monitor snow water equivalent and the speed of melting on flooding.

♦ Interactions with NOAA Line Offices

NOAA Public Affairs Requests Maps

Tom Johnson of ABC News contacted the National Oceanic and Atmospheric Administration (NOAA) Public Affairs Office regarding maps outlining areas in the U.S. subject to weather disasters. In response, the National Climatic Data Center sent a map produced by the National Geographic Society, with help from NCDC, which outlined areas which have experienced severe weather. Other NOAA publications which contained maps showing the frequency distributions for tornadoes, flash floods, and thunderstorms were also mailed.

EMPLOYEE ACTIVITIES

♦ EEO and Community Outreach

Blood Drive

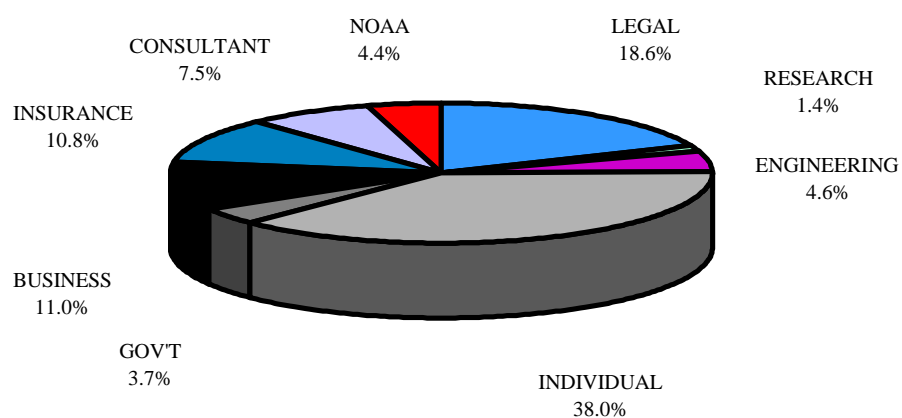
Roger Winchell of the National Climatic Data Center coordinated the Federal Building Blood Drive on February 16th. A total of 52 units of blood were collected, 70 percent more than the goal.

A-B Tech Students Visit NCDC

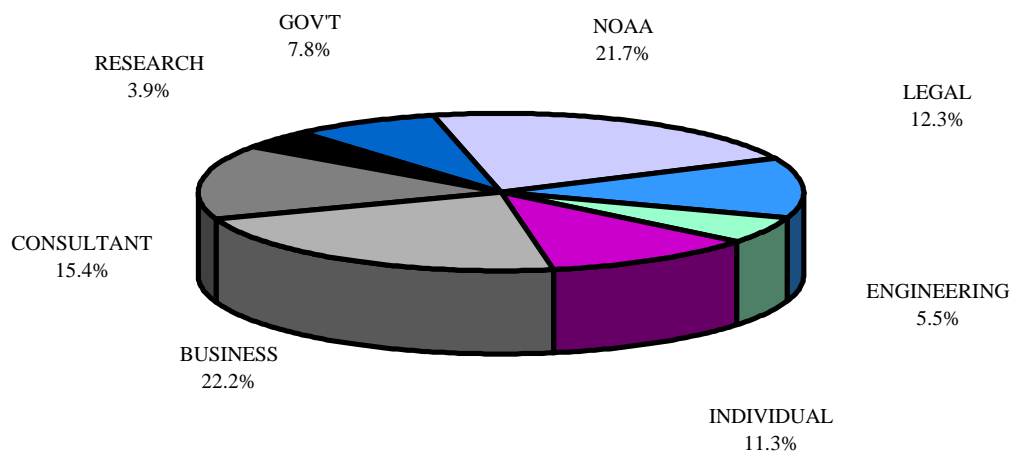
Roger Winchell and Doug Snowden of the National Climatic Data Center (NCDC) provided a tour of the computer room and a briefing of the NCDC information technology infrastructure to ten students and their instructor from the Asheville-Buncombe County Technical College (A-B Tech).

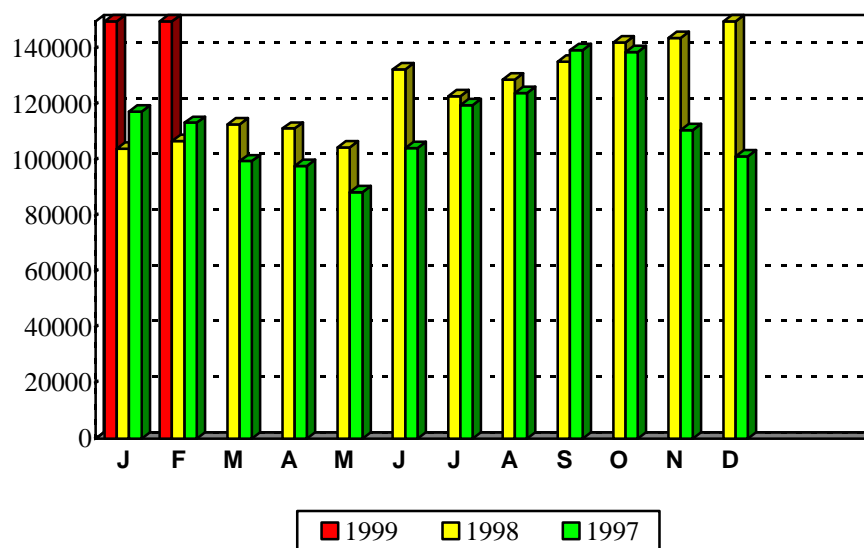
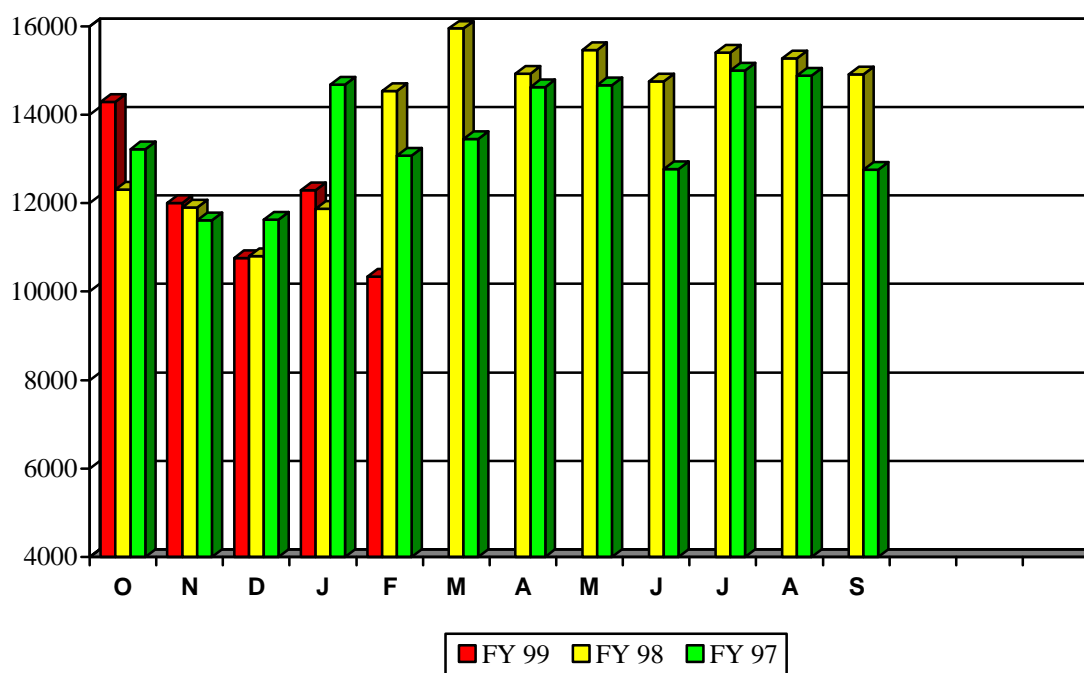
The following charts and graphs show the latest National Climatic Data Center user and data statistics.

Customer Profile Based on Orders



Customer Profile Based on Order Cost



NCDC On-Line Users**NCDC Off-Line Customer Contacts**

NCDC Data Downloaded